

# SOUND QUALITY ADJUSTING DEVICE AND FILTER DEVICE USED THEREFOR, SOUND QUALITY ADJUSTING METHOD, AND FILTER DESIGNING METHOD

## Abstract

A filter circuit is composed of FIR filters, and the filter factor is of a symmetrical type, thereby realizing a linear phase characteristic and preventing phase distortion even if a desired frequency band is emphasized. The first filter factors of a low-pass filter are determined so that the first filter factors may be the terms of a sequence in which the sum of the terms is not zero, the sign of the sum of every other terms is the same as that of the other every other terms, and the sum of the every other terms is equal to that of the other every other terms. Thus, by only changing a part of the signs of the filter factors, second filter factors of a high-pass filter can be simply determined so that they may be the terms of a sequence in which the sum of the terms is zero, the sign of the sum of every other terms is opposite to that of the other every other terms, and the absolute value of the sum of the every other

terms is equal to that of the other every other terms.